

PERFIL'YEVA, O.G.; RESHETNIKOV, N.A.

System LiOH - Li₂CO₃. Zhur. neorg. khim. 9 no.11:2602-2605
N '64 (MIRA 18:1)

1. Irkutskiy meditsinskiy institut.

RESHETNIKOV, N.A.; BAEANIKOVA, T.V.

Phase diagram of the system of cesium hydroxide and cesium
nitrate. Zhur. Georg. khim. 10 no.1:183-188 Ja '65.

(MCRA 18:11)

1. Irkutskiy meditsinskiy institut. Submitted July 24, 1963.

RESHETNIKOV, N.A.; VILUTIS, N.I.

Fusibility diagrams in the systems $\text{LiOH} - \text{NaNO}_3$ and $\text{LiOH} - \text{KNO}_3$.
Zhur.neorg.khim. 6 no.6:1397-1400 Je '61. (MIRA 14:11)
(Systems (Chemistry))

RESHETNIKOV, N.A.; ROMANOVA, Ye.V.

Fusibility in the systems KNO_2 - NaOH and KOH - KNO_2 . Zhur.neorg.-
khim. 6 no.6:1381-1384 Je '61. (MIRA 14:11)
(Systems (Chemistry))

S/081/61/000/024/009/086
B138/B102

AUTHORS: Reshetnikov, N. A., Unzhakov, G. M.

TITLE: Thermographic investigation of lithium, sodium and potassium hydroxides

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24. 1961, 70, abstract 24B485 (Izv. fiz.-khim. n.-i. in-ta pri Irkutskom un-te. v. 4, no. 1, 1959, 41 - 61)

TEXT: The Li, Na and K hydroxides have been examined thermographically. Melting and transformation points have been determined. A secondary polymorphous transformation has been found in KOH at 347°C , which is accompanied by a slight thermal effect. The existence of polymorphous transformations in LiOH at 399°C is confirmed. The melting point of RbOH, determined visually, is 301° . [Abstracter's note: Complete translation.] ✓

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1654. LOW PRESSURE PLANT OF CLARK FIRM FOR PRODUCTION OF GASEOUS OXYGEN. Reshetnikov, N. F. and Ishkin, B. P. (Kislород (Oxygen), 1946, vol. 3, (5), 26-34; abstr. in Chem. Zentr., 1948, vol. 1, 1096, and in Chem Abstr., 1950, vol. 44, 9641).

The semi-portable equipment described uses a cold cycle operating between pressures of 5.5 and 7.0 atms.

AS 5-51.4 METALLURGICAL LITERATURE CLASSIFICATION

U.S. GOVERNMENT PRINTING OFFICE

1951 O-514-151

RESHETNIKOV, N.F.

Stratigraphic position of the Mashak series in the Bashkir
portion of the Urals. Mat. po. geol. i pol. iskop. IUzh.
Urala no.2:13-19 '60. (MIRA 14:3)
(Bashkiria--Geology, Stratigraphic)

RESHETNIKOV, N. F.

I. P. USYUKIN, Kislod 3, No. 5, 26-34, 1946

RESHETNIKOV, N. G.

RESHETNIKOV, N. G.--"Investigation of Certain Parameters of the Process of Drawing Wire of Alloys Based on Aluminum." Min Higher Education USSR. Moscow Inst of Nonferrous Metals and Gold imeni M. I. Kalinin. Chair of^o "Pressure Processing of Metals." Moscow, 1955. (Dissertation for the Degree of Candidate in Technical Science).

SO **Kntzhanay letopis'**
No 2, 1956

AUTHOR: Reshetnikov, N.G.

SOV/149-58-5-15/18

TITLE: The Magnitude of Stresses at the Boundary of the Elastic and Plastic Zones of the Deformation Region During Wire Drawing (O velikine napryazheniy na granitse uprugoy i plasticheskoy zon ochaga deformatsii pri volochenii)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 5, pp 131 - 139 (USSR)

ABSTRACT: It has been shown by many workers who studied the deformation process in wire drawing that, in general, back tension reduces the die pressure and increases the drawing load. Perlin and Ivanov (Refs 1, 2) established that if the application of back tension (of an arbitrary magnitude) results in a reduction of the die pressure, the total drawing force (and the drawing stress) begins to increase only when the back tension exceeds a certain critical value Q_{kp} . Perlin (Ref 2), who studied this problem analytically, showed that the magnitude of the stress $\sigma_{q\ kp}$ corresponding to Q_{kp} is practically equal to the axial stress at the boundary of the elastic and plastic zones of the deformation region during wire drawing

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without applied back tension and the object of the present investigation was experimentally to prove the validity of this hypothesis. Aluminium alloys were used in the experiments which were carried out with the aid of a vertical tensile testing machine, RMP-500, specially adapted for this purpose. The wire, gripped in the jaw of the lower, movable cradle of the machine, was drawn through a die supported on a special frame which was connected to the dynamometer. The wire passed over a pulley (rotating on a ball bearing) and the back tension was applied by suspending weights from the free end of the wire. In the absence of back tension, the dynamometer registered the die load M_q which in this case was equal to the drawing force P . When the back tension Q was applied, the drawing force P_q was calculated from the expression $P_q = M_q + Q$, where M_q was the die load, as registered by the dynamometer. The results of the experiments are

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reproduced graphically. Figure 1 shows how P_q and M_q (kg) varied with Q (kg), when an aluminium alloy (D1) wire was drawn to 24% reduction of area through a die with the die angle $2\alpha = 20^\circ$, graphs 1, 2 and 3 corresponding to materials that had been annealed or subjected to preliminary deformation of 10 and 55%. The same relationship for the same alloy and the same die angle is shown in Figure 2, the other conditions being: reduction per pass - 10%; the alloy annealed (graph 1), or subjected to preliminary deformation of 10 and 20% (graphs 2 and 3). Graphs reproduced in Figures 1 and 2 show that other factors (die angle, friction coefficient) being the same, the magnitude of the stress σ_q kp depends not on the reduction per pass employed but on the condition of the metal, as determined by the degree of the preliminary deformation. The relationship between σ_q kp (kg/mm^2) and the degree of the preliminary deformation (%) is shown in

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Figure 3 (scale on the left). In the same diagram the effect of the preliminary deformation on the U.T.S. or σ_{zH} (scale on the right), and on the value of

$\epsilon = \sigma_q k_p / \sigma_{zH}$ (%), is illustrated. (The diagrams in

Figure 3 refer to alloy D1 drawn at 10 and 24% reductions per pass). Figure 4 shows the variation of P_q and M_q with Q in the case of an aluminium alloy V65 subjected to preliminary deformation of 20% and drawn under the following conditions: graphs 1 - 24% reduction per pass, die angle 20°; graphs 2 - 10% reduction, die angle 20°; graphs 3 - 10% reduction, die angle 40°. The same relationship for the same alloy drawn under the same conditions but with the preliminary deformation of 40%, is shown in Figure 5.

At this stage it is pointed out by the author that if the drawing stress σ_B is plotted against the total deformation

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(i.e. deformation measured while the drawing force P_q is applied), a graph shown in Figure 7 is obtained ($\delta_2 > \delta_1$ denotes the degree of the preliminary deformation). In this case, the point C at which there is a sharp change in the slope of the curve, is a point of demarcation between the elastic and plastic zones of deformation. However, if the drawing stress σ_B is plotted against the permanent deformation (i.e. deformation measured when no load is applied), a graph shown in Figure 7b is obtained. In this case, the curve intersects the vertical axis at $\sigma_B = C$, which is the value of the stress at the boundary of the elastic and plastic zones of deformation. Similarly, if the drawing stress σ_B is plotted against the reduction per pass employed and if the obtained graph is extrapolated to intersect the σ_B axis, the point of intersection will determine the magnitude of C for the given experimental conditions.

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Figure 8a shows graphs of this type for a duraluminium alloy D1 drawn (through a die with $2\alpha = 16^\circ$) in the annealed condition (Curve 1) and after a preliminary deformation of 10, 20, 30 and 35% (Curves 2, 3, 4 and 5, respectively). Similar graphs for the same alloy drawn (through a die with $2\alpha = 18^\circ$) in the annealed condition (Curve 1) and after a preliminary deformation of 10, 20, 30, 40, 50 and 60% (Curves 1 to 7, respectively) are shown in Figure 8b. The extrapolated parts of these graphs are reproduced in larger-scale diagrams in Figure 9, where the values of C can be easily measured. Finally, by plotting the variation of $\sigma_{q\text{kp}}$ and C with the degree of the preliminary deformation on the same graph (Figure 10a - alloy D1, Figure 10b - alloy V65) it is demonstrated that, for all practical purposes, $\sigma_{q\text{kp}} = C$.

The results of the present investigation confirmed the existence of a critical value of the back tension (at least in the case of the studied aluminium alloys), and showed

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that the corresponding critical stress $\sigma_{q\text{ kp}}$ does not depend on the reduction per pass employed or on the die angle. It was also shown that: i) the critical stress $\sigma_{q\text{ kp}}$ is equal to the axial stress σ at the boundary of the elastic and plastic zones of deformation, from which it follows that in practical calculations $\sigma_{q\text{ kp}}$ can be considered as equal to the axial tensile stress at the boundary of the elastic and plastic zones of the deformation region during wire drawing without the application of back tension; ii) the relationship between M_q and Q is linear, when Q is lower than Q_{kp} . When Q exceeds Q_{kp} , the relationship deviates from linear, the more so the lower the reduction per pass; iii) while the total drawing force does not begin to increase until the back tension reaches its critical value, the die pressure is reduced by the application of back tension of any magnitude.

Card7/8 This means that the application of back tension of a

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magnitude lower than σ_{kp} is always beneficial, since it does not increase the power consumption and yet increases the die life without the necessity of decreasing the reduction per pass employed. This is particularly important in the case of metals characterised by high elastic limit, since with increasing elastic limit the value of the critical stress σ_{kp} also increases.

There are 10 figures and 2 Soviet references.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota,
Kafedra obrabotki metallov davleniyem
(Moscow Institute of Non-ferrous Metals and Gold,
Chair of Pressure-treatment of Metals)

SUBMITTED: April 1, 1958

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RESHETNIKOV, N.I.

Evaporating apparatus clearing and the prevention of gypsum
formation during the cooling of electrolytes. TSvet. met.
38 no.6:39-41. Ja '65. (MIRA 18:10)

RESHETNIKOV, N.I.; DASHKOV, K.S.; BEYLIN, Ya.Z.

Practices in pyro-metallurgical refining of crude lead
at the Ust'-Kamenogorsk Lead Combine. TSvet. met. 38 no.1:
41-46 Ja '65 (MIRA 18:2)

RESHETNIKOV, N.P.

Method of controlling flowing wells. Neft. i gaz.prom. no.1:25-27
ga-Mr '65. (MIRA 18:8)

РЭСНЕТНИКОВ, Н.П.

Simplified method for calculating the damping parameters of gassers
and spouters. Neft. i gaz. prom. no. 2:23-24 Ap-Je '65.

(MIRA 18:6)

Sampling done on 17 June 1964. Samples collected from
meable rocks. (Soviet no. 1129-10) 1964.

(MIRA 18-5)

1. Ukrainian Geological Institute of geologorazvedkany institut.

RESHETNIKOV, N.P.; PODUSOVSKAYA, M.V.; YAGNISHCHAK, I.V.

Practices in drilling wells 5000 m. deep in Ukrainian
geological formations. Trudy UkrNIGRI no.7:75-85 '63.

(MIRA 19:1)

TURKO, A.A.; RESHETNIKOV, N.P.; KOLDRA, V.G.

Geological and technological prerequisites for increasing
drilling speeds on prospect areas of the cis-Carpathian
region. Trudy UkrNIGRI no.7:90-101 '63.

(MIRA 19:1)

INBER, Faddey Il'ich; SKACHKOV, Petr Ivanovich; RESHETNIKOV, N.S.,
red.

[Operation of trucks with extra-wide lag-type tires in logging camps] Ekspluatatsiia avtomobilei s arochnymi shinami v lespromkhozakh. Moskva, Goslesbumizdat, 1963. 46 p.
(MIRA 17:7)

STEBLEV, Nikolay Mikhaylovich; BYTSKO, Vladimir Aleksandrovich;
RESHETNIKOV, N.S., red.

[Motor vehicles; manual for motor-vehicle drivers working
in lumbering] Avtomobil'; posobie dlia shoferov, rabotaiu-
shchikh v lesnoi promyshlennosti. Moskva, Izd-vo "Lesnaia
promyshlennost'," 1964. 463 p. (MIRA 17:8)

YERAKHTIN, Dmitriy Dmitriyevich, dots., kand. tekhn. nauk; GOKHMAN, Shlema Moiseyevich, kand. tekhn. nauk; DVINYANINOV, Vistor Nikolayevich, st. prepodavatel'; ZAYTSEV, Pavel Alekseyevich, inzh.; LOPATIN, Anton Venediktovich, dots.; ORLOV, Nikolay Mikhaylovich, inzh.; STRATANOVICH, Nikolay Nikolayevich, inzh.; STRIGANOV, Nikolay Ignat'yevich, inzh.; TIKHONOV, Nikolay Prokop'yevich, dots., kand. tekhn. nauk; RAYKHLIN, Zaliman Tanfilovich, st. prepodavatel'; BELOV, Aleksandr Yemel'novich, dots.; RESHETNIKOV, N.S., dotsent, retsenzent; BABUSHKIN, I.N., red.; PITERMAN, Ye.L., red.izd-va; PARAKHINA, N.L., tekhn. red.

[Repair of lumbering and forestry machinery] Remong lesozagotovitel'nykh i lesokhoziaistvennykh mashin. By D.D.Erakhtin i dr. Moskva, Goslesbumizdat, 1961. 436 p. (MIRA 15:2)

1. Kafedra remonta Moskovskogo lesotekhnicheskogo instituta (for Reshetnikov).

(Forests and forestry—Equipment and supplies)

(Lumbering—Machinery)

POZDNEYEV, M.M., st. nauchn. sotr.; POPKOV, A.G., inzh.-konstruktor;
RESHETNIKOV, N.S., dots.; KLEBANOV, M.Ya., otv. za vypusk;
MYAKUSHKO, V.P., red. izd-va; BACHURINA, A.M., tekhn. red.

[Technological processes of the reconditioning of worn-out parts of the MAZ-200 and MAZ-501 motortrucks] Tekhnologicheskie protsessy vosstanovleniya (remonta) iznoshennykh detalei avtomobilei MAZ-200 i MAZ-501. Moskva, Goslesbumizdat, Pt.1. [Parts of the IAZ-204A engine] Detali dvigatel'ia IAZ-204A. 1963. 226 p. (MIRA 16:7)

1. Khimki. Tsentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i energetiki lesnoy promyshlennosti.
(Motortrucks--Engines)

RESHETNIKOV, N.S., dotsent; LEVANOVA, R.V., inzh.; RASHKOVSKAYA, A.N., inzh.; KHAZOV, I.I., inzh.; ANTONOVA, G.P., tekhnik; ANIKIYENKO, O.M., tekhnik; KORESHKOVA, V.I., tekhnik; KROTOVA, T.N., tekhnik; BIRYUKOVA, V.N., tekhnik; GOROKHOV, M.G., red.izd-va; PARAKHINA, N.L., tekhn.red.

[Album of working drawings of parts and units of MAZ-200 and MAZ-501 trucks] Al'bom rabochikh chertezhei detalei i uzlov avtomobilei MAZ-200 i MAZ-501. Moskva, Goslesbumizdat. Pts.2-3. 1960. 319 p. (MIRA 14:7)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i energetiki lesnoy promyshlennosti. 2. Nachal'nik laboratorii tipovoy tekhnologii remonta mashin i organizatsii remontnykh predpriyatiy TSentral'nogo nauchno-issledovatel'skogo instituta mekhanizatsii i energetiki lesnoy promyshlennosti (for Reshetnikov). (Motortrucks--Equipment and supplies)

RESHETNIKOV, N.S., dotsent; SHPOLYANSKIY, B.Yu., starshiy nauchnyy
sotrudnik; LITVINENKO, T.M., mladshiy nauchnyy sotrudnik;
VERBITSKIY, I.I., red.; MAKAROVA, L.V., red.izd-va;
VDOVINA, V.M., tekhn.red.

[Technical specifications for repairing, assembling, and testing
after repair TDT-60 tractors] Tekhnicheskie uslovia na remont,
sborku i ispytanie posle remonta traktora TDT-60. Moskva, Gos-
lesbumizdat. Pt.2. [Tractor and its units (except the engine)]
Traktor i ego agregaty (krome dvigatel'ia). 1961. 149 p.
(MIRA 14:6)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut
mekhanizatsii i energetiki lesnoy promyshlennosti. 2. Nachal'nik
laboratorii tipovoy tekhnologii remonta mashin i organizatsii
remontnykh predpriyatiy TSentral'nogo nauchno-issledovatel'skogo
instituta mekhanizatsii i energetiki lesnoy promyshlennosti (for
Reshetnikov).

(Tractors—Maintenance and repair)

RESHETNIKOV, N.S., dots.; LEVANOVA, R.V., inzh.; RASHKOVSKAYA, A.N.,
inzh.; ANTONOVA, G.P., tekhnik; ANIKIYENKO, O.M., tekhnik;
PINSKAYA, M.Z., red. izd-va; LOBANKOVA, R.Ie., tekhn. red.

[Album of working drawings of basic parts and units of the ZIL-
157 automobile] Al'bom rabochikh chertezhei osnovnykh detalei i
uzlov avtomobilia ZIL-157. Moskva, Goslesbumizdat. Pt.1. [Motor
of the ZIL-157] Dvigatel' ZIL-157. 1961. 118 p.

(MIRA 15:1)

1. Khimki. TSentral'nyy nauchno-issledovatel'skiy institut me-
khanizatsii i energetiki lesnoy promyshlennosti. 2. Nachal'nik
laboratorii tipovoy tekhnologii remonta mashin i organizatsii re-
montnykh predpriyatiy otdeleniya remonta lesozagotovitel'nogo obo-
rudovaniya TSentral'nogo nauchno-issledovatel'skogo instituta me-
khanizatsii i energetiki lesnoy promyshlennosti (for Reshetnikov).
(Motortrucks--Design and construction)

GALINKIN, Boris Yevgen'yevich; KURIS, Iosif Yevdokimovich;
REKHETNIKOV, N.S., red.

Repairing the parts of lumbering machines by building up
and welding] Vosstanovlenie detalei lesozagotovitel'nykh
mashin naplavkoi i svarkoi. Moskva, Lesnaia promyshlen-
nost', 1964. 84 p. (MIRA 18:3)

RESHETNIKOV, N.S., dots.; FUZDMEYEV, M.L., starshiy nauchnyy sotr.;
POPKOV, A.G., mlad. nauchnyy sotr.; CHERNYSHOV, G.V.,
mladshiy nauchnyy sotr.; VERBITSKIY, I.I., otv. za vypusk;
IOFINOVA, TS.B., red.izd-va; SHIBKOVA, R.Ye., tekhn. red.

[Specifications for checking and sorting parts of MAZ-200
and MAZ-501 motortrucks] Tekhnicheskie uslovia na kontrol'
i sortirovku (razbrakovku) detalei avtomobilei MAZ-200 i
MAZ-501. Moskva, Goslesbumizdat. Pt.2. [Chassis of the
MAZ-200 motortruck (except the engine)] Shassii avtomobilii
MAZ-200 (krome dvigatel'ia). 1962. 214 p. (MIRA 16:3)

1. Khimki. TSentral'nyy nauchno-issledovatel'skiy institut
mekhanizatsii i energetiki lesnoy promyshlennosti.
(Motortrucks--Maintenance and repair)

LEVANOVA, R.V., starshiy nauchnyy sotr.; VORONIN, I.N., mladshiy nauchnyy sotr.; ANTONOVA, G.P., tekhnik; ANIKIYENKO, O.M., tekhnik; RESHETNIKOV, N.S., dots.; LEONT'YEV, L.N., mladshiy nauchnyy sotr., otv. za vypusk; BASINKEVICH, I.R., red. izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Album of working drawings of the basic parts and units of the ZIL-157 motortruck]Al'bom rabochikh chertezhei osnovnykh detalei i uzlov avtomobilia ZIL-157. Moskva, Goslesbumizdat. Pt.2.[The chassis except the ZIL-157 engine]Shassi, krome dvigatolia ZIL-157. 1962. 280 p. (MIRA 15:10)

1. Khimki. Tsentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i energetiki lesnoy promyshlennosti.
(Motortrucks--Design and construction)

RESHETNIKOV, N.S., dots.; LEVANOVA, R.V., inzh.; RASHKOVSKAYA, A.N., inzh.;
ANTONOVA, G.P., tekhnik; ANIKIYENKO, O.M., tekhnik; KORESHKOVA, V.I.
tekhnik; KROTOVA, T.N., tekhnik; BIRYUKOVA, V.N., tekhnik; PAVLYUKOVA,
S.N., tekhnik; PARAKHINA, N.L., tekhn. red.

[Album of working drawings of parts and units of the TDT-60 tractor]
Al'bom rabochikh chertezhei detalei i uzlov traktora TDT-60. Moskva,
Goslesbumizdat. Pt.2. [Xcept the motor] Krome dvigatel'ia. 1959. 388 p.
(MIRA 14:12)

1. Khimki. tsentral'nyy nauchno-issledovatel'skiy institut mekhaniza-
tsii i energetiki lesnoy promyshlennosti. 2. Laboratoriya tipovoy
tekhnologii remonta lesozagotovitel'nogo oborudovaniya i organizatsii
remontnykh predpriyatiy TSentral'nogo nauchno-issledovatel'skogo in-
stituta mekhanizatsii i energetiki lesnoy promyshlennosti (for all
except Levanova, Parakhina).

(Tractors--Design and construction)

RESHETNIKOV, N.S., dotsent; GRUZINOV, A.V., inzh.; KHAZOV, I.I., inzh.;
PETRULEVICH, N.A., tekhnik; MERZHANOVA, O.M., red.izd-va;
PARAKHINA, N.L., tekhn.red.

[Album of drawings of parts with repair dimensions and additional parts (pieces) for the MAZ-200/501 motortrucks] Al'bom chertezhei detalei remontnykh razmerov i dopolnitel'nykh detalei (nasadkov) avtomobilia MAZ-200/501. Moskva, Goslesbumizdat. (Tipovaya tekhnologiya remonta lesozagotovitel'nykh mashin i mekhanizmov). Pt.2. (Detali shassi avtomobilia MAZ-200. 1960. 130 p. (MIRA 13:11)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i energetiki lesnoy promyshlennosti. 2. Nachal'nik laboratorii tipovoy tekhnologii remonta mashin i organizatsii remontnykh predpriyatiy TSentral'nogo nauchno-issledovatel'skogo instituta mekhanizatsii i energetiki lesnoy promyshlennosti (for Reshetnikov).
(Motortrucks--Maintenance and repair)

RESHETIKOV, N. S.

Russia (1923- U.S.S.R.)

Book of appliance and special tool drawings for the repair the ZIS-150 automobile. Moskva, Goslesbumizdat, 1952. (Mic 55-3423)

Collation of the original, as determined from the film: 164 p.

Microfilm Slavic 370 AC

1. Automobiles, Russia.
2. Automobiles - Repairing. I. Reshetnikov, N.S.

RESHETNIKOV, Nikolay Stepanovich,; KOLYASINSKIY, Z.S., red.; LESNYAKOV,
F.I., red.; ZUYEVA, N.K., tekhn. red.

[Repair of IaAZ-204 and IaAZ-206 engines] Remont dvigatelei
IaAZ-204 i IaAZ-206. Moskva, Nauchno- tekhn. izd-vo avtotransp.
lit-ry, 1958. 247 p. (MIRA 11:11)
(Diesel engines--Maintenance and repair)

RESHETnikov, N. S.

Russia (1923-- U.S.S.R.)

Book of appliance and special to 1 drawings for the repair the ZIs-150 automobile.
Moskva, Goslesbumizdat, 1952. (Mic 55-3423).

Collation of the original, as determined from the film: 164 p.

SHESTOPALOV, Konstantin Sergeyevich; PUSHKAREV, Boris Aleksandrovich;
FILEROV, D.I., ofitsial'nyy retsenzent; RESHETNIKOV, N.S., ofitsial'nyy
retsenzent; DOMBROVSKIY, Yu.V., redaktor; GORYUNOVA, L.K., redaktor
izdatel'stva; SHITS, V.P., tekhnicheskiy redaktor

[Machine repairing at lumbering enterprises] Slesarno-remontnoe delo
na lesozagotovitel'nykh predpriyatiyakh. Moskva, Goslesbumizdat, 1956.
199 p. (MLRA 10:1)

(Machinery--Repairing)

RESHETNIKOV, N.S.

Remont dvigatel'ia ZIS-120 (avtomobil'ia ZIS-150). Moskva, Izd. Min. kommunal'nogo khoziaistva RSFSR, 1951. 166 p.

Repair of the ZIS-120 engine (of the ZIS-150 automobile)

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

RESHETNIKOV, N. S.

Remont'dvigatel'ia ZIS-120 (Avtomobilia ZIS-150). [Engine repair ZIS-120]. Moskva, Izd-vo Ministerstva kommunal'nogo khoziaistva RSFSR, 1951. 166 p.

SO: Soviet Transportation and Communication. A Bibliography, Library of Congress Reference Department, Washington, 1952, Unclassified.

RESHETNIKOV, N.S.; SHIRNYUK, I.A., redaktor; SHENDAREVA, L.V., tekhnicheskiiy redaktor.

[Book of appliance and special tool drawings for the repair of the ZIS-150 automobile] Al'bom chertezhei prispoblenii i spetsinstrumenta dlia remonta avtomobilei ZIS-150. Moskva, Goslesbumizdat, 1952. 164 p. [Microfilm] (MLRA 7:8)

1. Russia(1923- U.S.S.R.) Ministerstvo lesnoy promyshlennosti. (Automobiles--Repairing)

VOYTIKOV, Viktor Vladimirovich; DRONG, Ivan Iosifovich, inzh.; DZHULAY, Petr Silovich; POPOV, Mikhail Amvrosiyevich; PRITSKER, Petr Yakovlevich; RESHETNIKOV, N.S., red.; OSOKINA, A.M., red.izd-va; BACHURINA, A.M., tekhn.red.

[The TDT-60 trailer tractor] Trelevochnyi traktor TDT-60.
Pod red. I.I.Dronga. Moskva, Goslesbumizdat, 1958. 265 p.
(MIRA 12:8)

(Tractors)

RESHETNIKOV, Nikolay Stepanovich; NOSOV, A.I., dotsent, retsenzent;
NIKIFOROV, V.M., red.; KIMMEL', L.S., red. izd-va;
LOBANKOVA, R.Ye., tekhn. red.

[Repair of the engines of lumbering machinery and mechanisms]
Remont dvigatelei lesozagotovitel'nykh mashin i mekhanizmov.
Moskva, Goslesbumizdat, 1961. 275 p. (MIRA 15:4)

1. Zaveduyushchiy kafedroy remonta Leningradskoy lesotekhnicheskoy
akademii im. Kirova (for Nosov).
(Engines--Maintenance and repair)
(Lumbering--Machinery)

6(7)

SOV/112-59-3-6247

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 3, p 286 (USSR)

AUTHOR: Reshetnikov, N. V.

TITLE: Artificial Telephone-Traffic Generator
(Generator iskusstvennoy telefonnoy nagruzki)

PERIODICAL: Sb. tr. Leningr. elektrotekhn. in-ta svyazi, 1957, Nr 3(33),
pp 131-142

ABSTRACT: Bibliographic entry.

Card 1/1

RESHETNIKOV, N.V.

Artificial telephone communication in testing methods. *Elektrosviaz'*
11 no.3:53-58 Mr '57. (MLRA 10:5)

(Telephone)

RESHETNIKOV, N.V., Cand Tech Sci -- (diss) "Theoretical bases of
the construction of a generator for artificial telephone communication."
Len, 19-8, 10 pp (Min of Higher Education USSR. Len Electrical Engineering
Inst of Communications in M.A. Bonch-Bruyevich) 110 copies
(KL, 27-58, 111)

- 135 -

AUTHOR: Reshetnikov, N.V.

SOV/106-58-7-7/18

TITLE: Artificial Telephone Traffic Generator and Its Use in the Investigation of Some Line Switching Circuits (Generator iskusstvennogo telefonnogo soobshcheniya i ego primeneniye dlya issledovaniya nekotorykh skhem vklyucheniya liniy)

PERIODICAL: Elektrosvyaz', 1958, Nr 7, pp 43 - 48 (USSR)

ABSTRACT: Seven previous attempts at the construction of an artificial traffic machine in Western Europe or the USA are briefly described. It is concluded that, as a rule, these were intended for a very narrow class of problems and are unsuitable for a general investigation. The specification for the new machine described is: it must be capable of investigating the various forms of line switching found in new automatic telephone exchanges; the work of the people operating the machine must be reduced to a minimum; the time required to carry out an investigation must be relatively short. Figure 2 shows the artificial load generator which switches a single point to N different outlets in a random fashion. The circuit is based on the principle that, other conditions

Card 1/3

SOV/106-58-7-7/18

Artificial Telephone Traffic Generator and Its Use in the
Investigation of Some Line Switching Circuits

being equal, the operating time of an ordinary relay is a random quantity. A more detailed circuit diagram of a "probability element" is shown in Figure 3. Table 1 compares the measured and calculated distribution of calls from a single source to 4 outlets. The operation of this simple system accords well with the theory. Figure 5 shows 3 ways of step-switching a bundle of 64 lines while Figure 6 shows the probability element analogue of the first variant. Table 2 compares the measured results of loss on the three variants with the predictions of the British Post Office formula and a formula by Babitskiy. Loads of 16, 24 and 32 Erlangs were used. It is concluded that the theoretical predictions do not agree among themselves or with the measured results. The greatest variation occurs in the arrangement with direct step-switching.

Card 2/3

SOV/106-58-7-7/18

Artificial Telephone Traffic Generator and Its Use in the
Investigation of Some Line Switching Circuits

There are 6 figures, 2 tables and 9 references, 2 of which
are Soviet, 1 German, 1 Dutch and 5 English.

ASSOCIATION: LEIS

SUBMITTED: February 24, 1958

1. Multichannel telephone systems--analysis

Card 3/3

KOPF, Mark Filippovich; KHARKEVICH, Anatoliy Dem'yanovich; SHILOV, Oleg Serenovich; SANOYLENKO, Yevgeniy Andrianovich; MARKOVICH, Aleksandr Yakovlevich; RESHETNIKOV, N.V., retsenzent; METEL'SKIY, G.B., otv. red.; OBRATZSOVA, Ye.A., red.

[Textbook on telephony] Zadachnik po telefonii. [By] M.F.Kopp i dr. Moskva, Sviaz', 1965. 279 p. (MIRA 18:3)

RESHETNIKOV, N.V.

Determining the hour of the maximum load in municipal telephone
stations. Elektrosвяз' 19 no.6:51-56 Je '65.

(MIRA 18:6)

RESHETNIKOV, O. I.

21 3
Stand for spectrographic analysis of powders. O. I.
Reshetnikov and I. A. Lobanov. U.S.S.R. 102,392, Mar.
25, 1958. The lower electrode which acts as receptacle for
the powder is made in the shape of a disk and can be made
to rotate at a predetd. speed. M. Hoshch

JK

RESHETNIKOV, P. A.

IA 5/ 1212

USSR/Engineering
Rubber - Reclaiming
Efficiency, Industrial

Jul 48

"Technological Changes in the Production of Re-claimed Rubber," A. I. Parusov, P. A. Reshetnikov, G. P. Fedorov, Moscow Reclaimed Rubber Factory, 1 p

"Prom Energet" No 7

Suggestion was awarded a third prize in 1947 All-Union Contest. Operation formerly required 250 kw electricity and 1.4 Cal steam per ton of re-claimed rubber. Authors designed special machine (sketch given) for pulverizing rubber.

FDB

6/49723

RESHETNIKOV, F.F.,
A.P. PALKIN, Acta Univ. Voronegiensis, 10, No. 4, Sect. Chem.,
5-39 (1939)

RESHETNIKOV, P.M.

Beaver in the Il'men' Preserve. Izv.AN SSSR. Otd.khim.nauk no.10:
82-88 0 '58. (MIRA 11:12)
(Il'men' Preserve--Beavers)

RESHETNIKOV, P.M.

Experiment with desmans transplanted into the Il'men' Preserve.
Trudy Inst. biol. UPAN SSSR no.18:185-193 '59.

(MIRA 13:8)

(Il'men' Preserve--Desmans)

RESHETNIKOV, P. P. and POPOV, G. M.

"Medical Service of Soviet Local Antiaircraft Defense," Kratkiye Osnovy Meditsinskoy Sluzhby Mestnoy Protivovozdushnoy Obornoyny Dlya Srednego Meditsinskogo Personala (Brief Manual of Fundamentals of the Medical Service of Local Antiaircraft Defense for the Instruction of Medical Personnel Belonging to the Middle Category), Medgiz, Moscow, 91 pp., 1951.

TABCON, W - 21967, 19 Mar 52

BAROYAN, O.V.; RESHETNIKOV, P.P.; GAVRILOV, V.I.

Apparatus 1-1 for experimentation with aerosols containing bacteria
or viruses. Vop.virus. 1 no.4:53-56 J1-Ag '56. (MLRA 10:1)

(AEROSOLS,

appar. for aerosol bact. & viral infect. of animals (Rus))

(MICROBIOLOGY, apparatus and instruments,

aerosol for bact. & viral infect. of animals (Rus))

COUNTRY : USSR
 CATEGORY : Cultivated Plants. Fodder Grasses and Forbs.
 RES. JOUR. : MacBiol., No. 1, 1959, No. 1721
 AUTHOR : Meshchikov, P.T.
 INST. : Kirovsk Agric. Inst.
 TITLE : Comfrey -- a New Fodder Plant in the Kirovsk Oblast.
 ORG. PUB. : Tr. Kirovskogo ot-del. in-ss, 1957, 12, No. 24, 43-48
 ABSTRACT : Presented is data on results of the perennial comfrey plant, *Symphytum asperum* Lapech, on experimental plots. Pieces of rootstocks with buds were transplanted. Maintenance included weeding, mellowing of the soil, and auxiliary nutrition with humus. The green bulk was reaped twice in the summer. For 3 years, on the average, (calculated per one hectare) 404 centners were harvested. Comfrey appears to be a good fodder substance for domestic animals, and is suitable for ensilage, particularly in a mixture with corn. -- Ye.A. Chasokova

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<i>CR</i> The utilization of the phosphorus waste from the match industry for fertilizers. P. T. RUSNATSKOY. <i>Udobrenia i Urazhai</i> 3, 1076-7(1981).—Pot expts. for 2 years with the residues of phosphates used for dipping matches have shown that they are just as good a source of P_2O_5 as superphosphate and in some respects even better, depending on whether the residues contain K and CaO or not. Analyses of several samples of such residues are given. J. S. Joffe																			
ASB-11A METALLURGICAL LITERATURE CLASSIFICATION																			
FROM STUDENT										FROM DOCTOR									
1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									

COMMON ELEMENT		PROCESSING AND PROPERTIES INDEX		COMMON VARIABLE INDEX	
Utilization of the phosphorus waste from the match industry for fertilizers. P. T. Romanov (Udsk. Ucheb. 1981, 2, 1976-1977).—The phosphate residues are as good a source of P_2O_5 as is superphosphate, or are in some respects better. Ch. Ann.					
ASB-316 METALLURGICAL LITERATURE CLASSIFICATION					
TANDARD		SECONDARY		THIRDARY	

RESHETNIKOV, S.

Poisons and antidotes in Ibn Sina's (Avicenna) "Canon of medical science". Pharm. J. toks. 26 no.4:499-501 31-Ag '62.

(MIRA 17:10)

RESHETNIKOV, S.A. (Sernur, Mariyskaya ASSR)

"Greek and Latin epigrams on medicine and health". Reviewed
by S.A.Reshetnikov. Kaz.med.zhur. no.5:88-89 S-0 '62.
(MIRA 16:4)
(MEDICINE—ANECDOTES, FACETIAE, SATIRE, ETC.)

RESHETNIKOV, S.A. (s. Sernur Mariyskoy ASSR)

Girolamo Fracastoro "On Syphilis." Reviewed by S.A. Reshetnikov.
Kaz. med. zhur. no. 2:104-105 Mr-Apr '61. (MIRA 14:4)
(SYPHILIS)

RESHETNIKOV, S.A.

Medicinal agents in the Commodity Dictionary and in the Large Medical Encyclopedia, 2d edition. Apt.delo 8 no.6:73-74 N-D '59.

(MIRA 13:4)

(BIBLIOGRAPHY--PHARMACY)

АБДУЛЛИНОВ, С.А. (с. Сарнур, Мари́йской АССР)

History of the hygiene of nutrition in the "Canon of medicine" by
Abu Ali ibn-Sina (Avicenna). Vop. pit. 16 no.2:79-81 Mr-Ap '57.

(FOOD

(MLRA 10:10)

hyg., hist. (Rus))

(HYGIENE

food hyg., hist. (Rus))

RESHETNIKOV, S.A. (Mariyskaya ASSR)

Ibn Sina's (Avicenna's pharmacology; on the publication of the
second volume of his "Canon." Klin.med. 35 no.5:155-158 My '57.
(PHARMACOLOGY--HISTORY) (MLRA 10:8)

RESHETNIKOV, S.A., zasluzhennyy vrach RSFSR

"De medicina" by Aulus Cornelius Celsus. Vest.AMN SSSR 15 no.4:
88-90 '60. (MIRA 14:5)

(CELSUS, AULUS CORNELIUS)

RESHETNIKOV, S.A.

"Structure of the human body". Andreas Vesalius. Reviewed by S.A.
Reshetnikov. Arkh. anat. gist. i embr. 32 no.2:75-76 Ap-Je '55.
(MLRA 9:1)

(ANATOMY, HUMAN--EARLY WORKS TO 1800)
(VESALIUS, ANDREAS, 1514-1565)

RESHETNIKOV, S.A. (Selo Sernur Mariyskoy ASSR)

"Canons of medical sciences" book 1. Abu-Ali-Ibn-Sina (Avicenna)
Reviewed by S.A. Reshetnikov. Klin. med., 34 no.2:92-93 1956
(MIRA 9:6)

(MEDICINE)

RESHETNIKOV, S.A.

"Old Russian medical practice in the 11th to 17th centuries. Sources for the study of the history of Russian medicine" by N.A.Bogoiavlenskii. Reviewed by S.A.Reshetnikov. Zdrav. Ros. Feder. 5 no.10:38-40 0 '61. (MIRA 14:10)

(MEDICINE--HISTORY) (BOGIAVLENSKII, N.A.)

RESHETNIKOV, S.G.

Introducing an automatic readjusting line with flexible conveyors
for machining rollers. Biul. tekhn.-ekon. inform. Gos. nauch.-issl.
inst. nauch. i tekhn. inform. 18 no.2:33-35 F '65.

(MIRA 18:5)

RESHETNIKOV, S.G., aspirant

Analysis of the criteria for evaluating the efficiency of re-adjusted automatic machine-tool lines. Izv. vys. ucheb. zav.; mashinostr. no. 10:178-182 '65 (MIRA 19:1)

1. Submitted July 8, 1964.

RESHETNIKOV, D.M.; SOKOL'SKAYA, A.M.

Correlation between the catalytic activity of certain metals,
metal-hydrogen bond strength and work function of an electron.
Zhur. fiz. khim. 39 no.6:1356-1358 Je '65. (MIRA 18:11)

1. Kazakhskiy gosudarstvennyy universitet imeni Kirova.
Submitted Dec. 10, 1963.

SOKOL'SKAYA, A.M.; REZHETNIKOV, S.M.; SOKOL'SKIY, D.V., akademik

Effect of pH on hydrogen adsorption by platinized platinum.
Dokl. AN SSSR 159 no.4:907-909 D '64 (MIRA 18:1)

1. Kazakiy gosudarstvennyy universitet imeni S.M. Kirova.
2. AN KazSSR (for Sokol'skiy).

RESHETNIKOV, S.M.; SOKOL'SKAYA, A.M.

Hydrogenation in buffer solutions. Izv.vys.ucheb.zav.; khim. i
khim.tekh. 7 no.2:217-220 '64. (MIRA 18:4)

1. Kazakhskiy gosudarstvennyy universitet im. S.M.Kirova, kafedra
organicheskoy khimii.

RESHETNIKOV, S.M.; SOKOL'SKAYA, A.M.

Hydrogenation mechanism in buffer solutions. Izv. AN Kazakh.
SSR. Ser. khim. nauk 14 no.1:52-59 Ja-Mr '64. (MIRA 18:3)

SOKOL'SKAYA, A.M.; RESHETNIKOV, S.M.

Effect of the pH value on the hydrogenation speed of conjugate systems.
Vest. AN Kazakh. SSR 20 no.2:50-58 F '64.

(MIRA 18:1)

RECHETNIKOV, S.H.; SOKOL'SKAYA, A.M.; SOKOL'SKIY, D.V.

Relation between values of the preexponential factor and
catalyst potential shift in the hydrogenation reaction.

Izv. AN Kazakh.SSR.Ser.khim.nauk 15 no.3:62-66 JI-Ag '65.

(MIRA 18:11)

1. Submitted January 18, 1965.

SOKOL'SKAYA, A.M.; RESHETNIKOV, S.M.

Hydrogenation of 3-sulfolene. Kin.i kat. 6 no.3:559-562. My. To 165.
(MIRA 18:10)

1. Kazakhskiy gosudarstvennyy universitet imeni Kirova.

SOKOL'SKAYA, A.M.; RESHETNIKOV, S.M.

Connection between electrochemical and catalytical reactions
with the participation of hydrogen. Vest. AN Kazakh SSR 20
no.11:42-46 N '64. (MIRA 18:2)

SOKOL'SKAYA, A.M.; RESHETNIKOV, S.M.; SOKOL'SKIY, D.V., akademik

Hydrogenation of unsaturated compounds in buffer solutions.
Dokl. AN SSSR 152 no.6:1369-1372 O '63. (MIRA 16:11)

1. Kazakhskiy gosudarstvennyy universitet im. S.M. Kirova.
2. AN KazSSR (for Sokol'skiy).

RESHETNIKOV, S.S.

Afferent innervation of the esophagus in the land tortoise
(Testudo horsfieldii). Dokl. AN SSSR 153 no.5:1190-1192
D '63. (MIRA 17:1)

1. Institut fiziologii im. I.P. Pavlova AN SSSR i Institut
eksperimental'noy meditsiny AMN SSSR. Predstavleno akademi-
kom N.N. Anichkovym.

RESHETNIKOV, S.S.

Morphology of neurons and their synaptic connections in the Auerbach plexus of the stomach in reptiles. Dokl. AN SSSR 148 no.1:202-205 Ja '63. (MIRA 16:2)

1. Institut fiziologii im. I.P. Pavlova AN SSSR i Institut eksperimental'noy meditsiny AMN SSSR. Predstavleno akademikom N.N. Anichkovym.
(MYENTERIC PLEXUS) (NERVOUS SYSTEM—REPTILES)

RESHETNIKOV, V.

The KhAI-19 airplane. Kryl. rod. 13 no.10:16-17 0 '62.
(MIRA 15:10)

1. Nachal'nik studencheskogo obshchestvennogo konstruktorskogo
byuro Khar'kovskogo aviatsionnogo instituta.

(Airplanes--Design and construction)

RESHETNIKOV, Valeriy

In the air. Znan.ta pratsia no.9:20-21 S '62. (MIRA 15:11)

1. Nachal'nik studencheskogo konstruktorskogo byuro Khar'kovskogo
aviatsionnogo instituta.

(Airplanes--Design and construction)

KIVILIS, S.S.; RESHETNIKOV, V.A.

Effect of the steady flow profile on the error of ultrasonic flow-
meters. Izv. tekh. no.3:52-54 Mr '65. (MIRA 18:5)

RESHETNIKOV, V., nauchnyy sotrudnik; CHERNYAVSKIY, I., nauchnyy sotrudnik

Mine car stop. Mast. ugl. 7 no.9:21-22 S '58. (MIRA 11:10)

1. Makeyevskiy nauchno-issledovatel'skiy institut po bezopasnosti
rabot v gornoy promyshlennosti.
(Mine railroads--Cars) (Brakes)

PETRIKOV, N. (Saransk); RESHETNIKOV, V.; SOKOLOV, N.; SUKATOV, I.;
PROKHOROV, Ya.

Contributions to agriculture. Mest.prom.i khud.promys. 3
no.7:8-9 JI '62. (MIRA 15:8)

1. Zamestitel' ministra mestnoy promyshlennosti Mordovskoy ASSR (for Petrikov).
 2. Nachal'nik Tul'skogo oblastnogo upravleniya mestnoy promyshlennosti (for Reshetnikov).
 3. Nachal'nik tekhnicheskogo otdela Lomonosovskogo instrumental'no-mekhanicheskogo zavoda, g. Lomonosov, Leningradskoy obl. (for Sokolov).
 4. Direktor Perovskogo opytnogo zavoda No.1, g. Perovo, Moskovskoy obl. (for Sukatov).
 5. Nachal'nik upravleniya toplivnoy promyshlennosti i mestnykh stroymaterialov Iсполnitel'nogo komiteta Moskovskogo Soveta deputatov trudyashchikhsya (for Prokhorov).
- (Agricultural machinery) (Farm buildings) (Socialist competition)

RESHETNIKOV, L., general-leytenant aviatsii, Geroi Sovetskogo Soyuzu, voyennyy
letchik pervogo klassa

Instrument flying. Av. i kosm. 47 no.2:70-75 F '65.

(MIRA 18:4)

RESHETNIKOV, V.

The KhAI-19 aircraft. Aviat's kosmonavt 6 no.111-12 '64

1. Nachalnik na studentskoto obshtestveno konstruktorsko
biuro pri Kharkovskii aviatsionen institut.

BUZILOV, Yu.T., kand. ekon. nauk; Prinimali uchastiye: YERMAKOVA,
L.A.; RESHETNIKOV, V.A.; RESHETNIKOVA, L.V.; RUBLEVA,
K.I.; SAMOYLOV, N.P.; SERGEYEVA, V.S., red.; TIKHOKOVA,
Ye.M., red.

[Manual for establishing work norms and wages in livestock
farming] Spravochnik po normirovaniu i oplate truda v
zhivotnovodstve. Moskva, Kolos, 1964. 326 p.
(MIRA 18:8)

L 35845-66 EWT(1) JAJ

ACC NR: AP6014523

SOURCE CODE: UR/0115/65/000/011/0048/0050

AUTHOR: Kivilis, S. S.; Reshetnikov, V. A.

59

B

ORG: none

TITLE: Hydromechanical error of ultrasonic flowmeters

SOURCE: Izmeritel'naya tekhnika, no. 11, 1965, 48-50

TOPIC TAGS: fluid mechanics, ultrasonic equipment, flow meter, ~~ERROR~~
CORRECTION

ABSTRACT: Presently known types of ultrasonic flowmeters can be divided into three groups, depending on the velocity of the flow being measured. The article gives a table showing the main characteristics of these types, using the following nomenclature: l_0 is the distance between the radiating and receiving piezo-transformers; $u(l)$ is the distribution of the flow velocity along the propagation path of the ultrasound; v_0 is the flow velocity along the axis of the pipeline; v_m is the maximum flow velocity; r_0 is the radius of the pipeline. Keeping in mind that the correction coefficient

$$m = \frac{v}{v_m} \quad (1)$$

where v is the velocity to be measured; v_m is the average velocity over

Card 1/2

UDC: 531.732.083

L 35845-66

ACC NR: AP6014523

a cross section, and, taking into account that

$$v_m = \frac{1}{\pi} \iint_{\pi} u(\omega) d\omega, \quad (2)$$

we get an expression for m for each type of flowmeter for steady state flow in a round pipeline. The article proceeds to a mathematical derivation of the expression for m for each of the three main types of ultrasonic flow meters described earlier. Orig. art. has: 12 formulas, 2 figures and 1 table.

SUB CODE: 20, 13, 14/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001

no
Card 2/2

L 2264-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)

ACCESSION NR: AP5011062

UR/0115/65/000/003/0052/0054

AUTHOR: Kivilis, S. S.; Reshetnikov, V.A.

TITLE: The effect of steady-state flow profile on the error of ultrasonic flow-meters

SOURCE: Izmeritel'naya tekhnika, no. 3, 1965, 52-54

TOPIC TAGS: hydromechanics, hydraulic engineering, ultrasonic flow meter, pipeline flow, ultrasound, flow profile, velocity distribution curve

ABSTRACT: The authors discuss the effect of the flow profile contour on the systematic error of flow-meters, noting that this is one of the most important problems in the measurement of flow rates by means of ultrasound. It is noted that when determining the rate of flow of a liquid passing through a pipeline, it is essential to know the velocity averaged over the flow cross section. These averaged velocities are related by a non-linear function, the analytical expression for which (in the case of a cylindrical pipeline) is presented and analyzed in the article. Attention is called to the fact that, while this expression and others similar to it suggested by various authors are based on a logarithmic law for the distribution of velocities in the pipeline, when $x = \text{const}$, this law is merely an approximate description of the actual velocity distribution curves and the constant x , used in the expression of the logarithmic law, changes even within the limits

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L 2264-66

ACCESSION NR: AP5011062

of a single velocity distribution curve for a constant Reynolds number. The authors therefore attempt to determine the effect of the velocity profile in the stream on the accuracy of ultrasonic flow-meter readings by means of a direct integration of experimentally derived velocity distribution curves. Expressions are obtained for the mean velocity of a flow of any configuration and for the mean velocity along the ultrasound propagation path. In this way, an accurate formula is derived describing the relationship between these velocities for a flow of any configuration. This expression is modified for the particular case of a steady-state stream in a cylindrical pipeline of given radius, with the ultrasound propagating in a plane which passes through the axis of the pipe. Steady-state flow velocity distribution curves are given in the article for different Reynolds numbers running from $4 \cdot 10^3$ to $3 \cdot 10^6$. A Chebyshev formula was used as the working formula in the integration of velocity distribution curves, with the basic data taken from the table of Nikuradze (Problemy turbulentnosti. ONTI, M. -L., 1936). The results of this computational work are presented in a separate figure, from which it is clear that for Reynolds numbers up to approximately $20 \cdot 10^3$ there is good agreement between the results obtained using the equations given in the first section of the article and the data obtained by direct integration of the velocity curves. Finally, an empirical formula is offered, expressing the quantity m as a function of the Reynolds number and obtained on the basis of the distribution integration carried out previously. This formula is simple and may be used in practical computations. Orig. art. has: 2 figures and 11 formulas.

Card 2/3

L 2264-66

ACCESSION NR: AP5011062

ASSOCIATION: None

SUBMITTED: 00

ENCL: 00

SUB CODE: ME, IE

NO REF SOV: 003

OTHER: 001

Card

dg
3/30